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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/418,706	10/15/1999	DENNIS ABTS	499.019US1	9235

7590

08/28/2003

SCHWEGMAN LUNDBERG WOESSENER & KLUTH-PA  
PO BOX 2938  
MINNEAPOLIS, MN 55402

EXAMINER

BRODA, SAMUEL

ART UNIT

PAPER NUMBER

2123

DATE MAILED: 08/28/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

3

# Office Action Summary

Application No.

09/418,706

Applicant(s)

ABTS ET AL.

Examiner

Samuel Broda

Art Unit

2123

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 15 October 1999.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-43 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20, 23, 25-29, 32, 33 and 36 is/are rejected.
- 7) ☒ Claim(s) 21, 22, 24, 30, 31, 34, 35 and 37-43 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 October 1999 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

Art Unit: 2123

### **DETAILED ACTION**

1. Claims 1-43 have been examined.

#### ***Drawings***

2. The Draftsperson has objected to the drawings; see the copy of Form PTO-948 for an explanation.

#### ***Specification***

3. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicants' cooperation is requested in correcting any errors of which Applicants may become aware in the specification.

#### ***Abstract***

4. The abstract of the disclosure is objected to because it contains extraneous text. Correction is required. See MPEP 608.01(b).

#### ***Claim Rejections - 35 U.S.C. § 112, Second Paragraph***

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Art Unit: 2123

**5.1** Claims 1-19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. Claim 1 recites the limitation “the simulation” in line 13. There is insufficient antecedent basis for this limitation in the claim.

For the purpose of further claim examination, this limitation will be considered as meaning “the simulation kernel.”

**5.2** Claims 2-19 are dependent on Claim 1 and are therefore also rejected under 35 U.S.C. 112, second paragraph.

***Claim Rejections - 35 U.S.C. § 102***

**6.** The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

...

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

**6.1** Claims 1-4, 20, 23, 25-29, 32-33, and 36 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Dearth et al, U.S. Patent 5,732,247 issued 24 March 1998.

**6.2** Dearth et al teaches a logic verification system using a set of simulation systems 13(1) through 13(M) using remote procedure calls (“RPCs”) to connect with a diagnostic system that is connected to a set of tests. See Fig. 1.

Art Unit: 2123

**6.3** Regarding claim 1, Dearth et al teaches a logic verification system comprising a hardware simulator [simulation systems 13(m)], a diagnostic system [core 20], an interprocess communication mechanism [interfaces 24 and 25 communicate using RPC communications], and a verification environment including diagnostic kernel in core 20 and simulation kernels in each model core 14.

**6.4** Regarding claims 2-4, Dearth et al teaches a set of diagnostic tests 11(m) communicating with a diagnostic test interface [interfaces 26 and 26 communicating using RPC communications] and the diagnostic kernel operates on events passed by the RCP communications.

**6.5** Regarding claim 20, this claim is anticipated using the analysis of claim 1 above, with the wrapper inside core 20 and each test containing a diagnostic programs comprising control 30 and core 31 and diagnostic program interface comprising interface 27.

**6.6** Regarding claims 23, 25-29, and 32, the system of Dearth et al performs trapping, multitasking a plurality of threads, communicating using semaphore variables, barrier functions, and waiting for nondeterministic outcomes. See Fig. 4 and corresponding text and columns 7-18.

**6.7** Regarding claims 33 and 36, these claims are anticipated using the analysis of claim 1 above.

Art Unit: 2123

***Allowable Subject Matter***

7.1 Claims 4-19 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

7.2 Claims 21-22, 24, 30-31, 34-35, and 37-43 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

8. The prior art made of record and not relied upon is considered pertinent to Applicants' disclosure. Reference to Houtchens, U.S. Patent 6,208,954 issued 27 March 2001, is cited as teaching sequencing the execution of sub-simulation systems using interprocess communications.

Reference to Stapleton, U.S. Patent 6,167,363 issued 26 December 2000, is cited as teaching RTL and HDL models using sockets in the UNIX operating system.

Reference to Liu et al, "Software Timing Analysis Using HW/SW Cosimulation and Instruction Set Simulator," IEEE Proceedings of the Sixth International Workshop on Hardware/Software Codesign, pp. 65-69 (March 1998), is cited as teaching using a wrapper program to connect the Ptolemy design environment to an instruction set simulator.

Art Unit: 2123

Reference to Mascarenhas et al, "ParaSol: A Multithreaded System for Parallel Simulation Based on Mobile Threads," pp. 690-697 (December 1995), is cited as teaching ParaSol kernel that includes an application layer, kernel layer, and threads system.

9. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Samuel Broda, whose telephone number is (703) 305-1026. The Examiner can normally be reached on Mondays through Fridays from 8:00 AM – 4:30 PM.


If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Kevin Teska, can be reached at (703) 305-9704. The fax phone numbers for this group are:

(703) 746-7238 --- for communications after a Final Rejection has been made;

(703) 746-7239 --- for other official communications; and

(703) 746-7240 --- for non-official or draft communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the group receptionist, whose telephone number is (703) 305-3900.

  
**SAMUEL BRODA, ESQ.**  
**PRIMARY EXAMINER**